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Drug Interaction Report

11 potential interactions and/or warnings found for the following 4 drugs:

- **lithium**
- **pregabalin**
- **Seroquel** (quetiapine)
- **Zoloft** (sertraline)

Add another drug

Interactions between your drugs

Major **lithium ⇄ sertraline**
Applies to: lithium, Zoloft (sertraline)

MONITOR CLOSELY: Lithium may enhance the pharmacologic effects of selective serotonin reuptake inhibitors (SSRIs) and potentiate the risk of serotonin syndrome, which is a rare but serious and potentially fatal condition thought to result from hyperstimulation of brainstem 5-HT1A and 2A receptors. The exact mechanism by which lithium increases serotonergic activity is unknown. The interaction has been reported with fluoxetine and fluvoxamine and the serotonin-norepinephrine reuptake inhibitor venlafaxine. Symptoms of the serotonin syndrome may include mental status changes such as irritability, altered consciousness, confusion, hallucinations, and coma; autonomic dysfunction such as tachycardia, hyperthermia, diaphoresis, shivering, blood pressure lability, and mydriasis; neuromuscular abnormalities such as hyperreflexia, myoclonus, tremor, rigidity, and ataxia; and gastrointestinal symptoms such as abdominal cramping, nausea, vomiting, and diarrhea. Conversely, SSRIs may elevate the plasma concentrations of lithium and increase the risk of lithium toxicity. The interaction has been associated with fluoxetine, while citalopram and paroxetine reportedly do not cause the interaction. Excessive somnolence has been reported with lithium and fluvoxamine.

MANAGEMENT: Caution is advised if lithium is prescribed in combination with SSRIs. Lithium levels should be assessed regularly and the dosage adjusted accordingly. Patients should be closely monitored for symptoms of the serotonin syndrome during treatment. Particular caution is advised when increasing the dosages of these agents. The potential risk for serotonin syndrome should be considered even when administering serotonergic agents sequentially, as some agents may demonstrate a prolonged

elimination half-life. For example, a 5-week washout period is generally recommended following use of fluoxetine before administering another serotonergic agent. If serotonin syndrome develops or is suspected during the course of therapy, all serotonergic agents should be discontinued immediately and supportive care rendered as necessary. Moderately ill patients may also benefit from the administration of a serotonin antagonist (e.g., cyproheptadine, chlorpromazine). Severe cases should be managed under consultation with a toxicologist and may require sedation, neuromuscular paralysis, intubation, and mechanical ventilation in addition to the other measures.

› References (20)

Moderate

lithium ⇄ QUEtiapine

Applies to: lithium, Seroquel (quetiapine)

GENERALLY AVOID: There is some concern that quetiapine may have additive cardiovascular effects in combination with other drugs that are known to prolong the QT interval of the electrocardiogram. In clinical trials, quetiapine was not associated with a persistent increase in QT intervals, and there was no statistically significant difference between quetiapine and placebo in the proportions of patients experiencing potentially important changes in ECG parameters including QT, QTc, and PR intervals. However, QT prolongation and torsade de pointes have been reported during post marketing use in cases of quetiapine overdose and in patients with risk factors such as underlying illness or concomitant use of drugs known to cause electrolyte imbalance or increase QT interval. In general, the risk of an individual agent or a combination of agents causing ventricular arrhythmia in association with QT prolongation is largely unpredictable but may be increased by certain underlying risk factors such as congenital long QT syndrome, cardiac disease, and electrolyte disturbances (e.g., hypokalemia, hypomagnesemia). The extent of drug-induced QT prolongation is dependent on the particular drug(s) involved and dosage(s) of the drug(s). In addition, certain agents with anticholinergic properties (e.g., sedating antihistamines; antispasmodics; neuroleptics; phenothiazines; skeletal muscle relaxants; tricyclic antidepressants) may have additive parasympatholytic and central nervous system-depressant effects when used in combination with quetiapine. Excessive parasympatholytic effects may include paralytic ileus, hyperthermia, mydriasis, blurred vision, tachycardia, urinary retention, psychosis, and seizures.

MONITOR: Coadministration of quetiapine with drugs that possess serotonergic activity (e.g., selective serotonin reuptake inhibitors (SSRIs), serotonin-norepinephrine reuptake inhibitors (SNRIs), monoamine oxidase inhibitors (MAOIs), tricyclic antidepressants (TCAs), etc.) may increase the risk of serotonin syndrome, a rare but serious and potentially fatal condition. Combining quetiapine with other serotonergic drugs may increase the risk of serotonin syndrome by relatively enhancing 5-HT1A receptor

activity. However, data are currently limited to case reports. In one case report, an 85-year-old woman developed serotonin syndrome within hours of increasing quetiapine from 12.5 mg to 25 mg/day while also taking escitalopram, mirtazapine, sulpiride, and olanzapine; symptoms resolved within 48 hours after the discontinuation of all serotonergic medications. Symptoms of serotonin syndrome may include mental status changes such as irritability, altered consciousness, confusion, hallucination, and coma; autonomic dysfunction such as tachycardia, hyperthermia, diaphoresis, shivering, blood pressure lability, and mydriasis; neuromuscular abnormalities such as hyperreflexia, myoclonus, tremor, rigidity, and ataxia; and gastrointestinal symptoms such as abdominal cramping, nausea, vomiting, and diarrhea.

MANAGEMENT: Coadministration of quetiapine with other drugs that can prolong the QT interval should generally be avoided. Caution and clinical monitoring are recommended if concomitant use of quetiapine with other agents that both prolong the QT interval and possess or enhance serotonergic activity is required. Patients should be advised to seek prompt medical attention if they experience symptoms that could indicate the occurrence of torsade de pointes such as dizziness, lightheadedness, fainting, palpitation, irregular heart rhythm, shortness of breath, or syncope. Patients should also be monitored closely for, and counseled about the signs and symptoms of serotonin syndrome (e.g., altered mental status, hypertension, restlessness, myoclonus, hyperthermia, hyperreflexia, diaphoresis, shivering, and tremor), especially during initiation and dose escalations. Due to variability and occasionally prolonged half-lives of these coadministered agents, consulting individual product labeling for specific guidance is advised.

› References (7)

Moderate

lithium ⇄ pregabalin

Applies to: lithium, pregabalin

MONITOR: Central nervous system- and/or respiratory-depressant effects may be additively or synergistically increased in patients taking multiple drugs that cause these effects, especially in elderly or debilitated patients. Sedation and impairment of attention, judgment, thinking, and psychomotor skills may increase.

MANAGEMENT: During concomitant use of these drugs, patients should be monitored for potentially excessive or prolonged CNS and respiratory depression. Cautious dosage titration may be required, particularly at treatment initiation. Ambulatory patients should be counseled to avoid hazardous activities requiring mental alertness and motor coordination until they know how these agents affect them, and to notify their physician if they experience excessive or prolonged CNS effects that interfere with their normal activities.

References (36)

Moderate

sertraline ⇄ QUEtiapine

Applies to: Zoloft (sertraline), Seroquel (quetiapine)

GENERALLY AVOID: There is some concern that quetiapine may have additive cardiovascular effects in combination with other drugs that are known to prolong the QT interval of the electrocardiogram. In clinical trials, quetiapine was not associated with a persistent increase in QT intervals, and there was no statistically significant difference between quetiapine and placebo in the proportions of patients experiencing potentially important changes in ECG parameters including QT, QTc, and PR intervals. However, QT prolongation and torsade de pointes have been reported during post marketing use in cases of quetiapine overdose and in patients with risk factors such as underlying illness or concomitant use of drugs known to cause electrolyte imbalance or increase QT interval. In general, the risk of an individual agent or a combination of agents causing ventricular arrhythmia in association with QT prolongation is largely unpredictable but may be increased by certain underlying risk factors such as congenital long QT syndrome, cardiac disease, and electrolyte disturbances (e.g., hypokalemia, hypomagnesemia). The extent of drug-induced QT prolongation is dependent on the particular drug(s) involved and dosage(s) of the drug(s). In addition, certain agents with anticholinergic properties (e.g., sedating antihistamines; antispasmodics; neuroleptics; phenothiazines; skeletal muscle relaxants; tricyclic antidepressants) may have additive parasympatholytic and central nervous system-depressant effects when used in combination with quetiapine. Excessive parasympatholytic effects may include paralytic ileus, hyperthermia, mydriasis, blurred vision, tachycardia, urinary retention, psychosis, and seizures.

MONITOR: Coadministration of quetiapine with drugs that possess serotonergic activity (e.g., selective serotonin reuptake inhibitors (SSRIs), serotonin-norepinephrine reuptake inhibitors (SNRIs), monoamine oxidase inhibitors (MAOIs), tricyclic antidepressants (TCAs), etc.) may increase the risk of serotonin syndrome, a rare but serious and potentially fatal condition. Combining quetiapine with other serotonergic drugs may increase the risk of serotonin syndrome by relatively enhancing 5-HT1A receptor activity. However, data are currently limited to case reports. In one case report, an 85-year-old woman developed serotonin syndrome within hours of increasing quetiapine from 12.5 mg to 25 mg/day while also taking escitalopram, mirtazapine, sulpiride, and olanzapine; symptoms resolved within 48 hours after the discontinuation of all serotonergic medications. Symptoms of serotonin syndrome may include mental status changes such as irritability, altered consciousness, confusion, hallucination, and coma; autonomic dysfunction such as tachycardia, hyperthermia, diaphoresis, shivering, blood pressure lability, and mydriasis; neuromuscular abnormalities such as hyperreflexia, myoclonus, tremor, rigidity, and ataxia; and gastrointestinal symptoms such as abdominal cramping, nausea, vomiting, and diarrhea.

MANAGEMENT: Coadministration of quetiapine with other drugs that can prolong the QT interval should

generally be avoided. Caution and clinical monitoring are recommended if concomitant use of quetiapine with other agents that both prolong the QT interval and possess or enhance serotonergic activity is required. Patients should be advised to seek prompt medical attention if they experience symptoms that could indicate the occurrence of torsade de pointes such as dizziness, lightheadedness, fainting, palpitation, irregular heart rhythm, shortness of breath, or syncope. Patients should also be monitored closely for, and counseled about the signs and symptoms of serotonin syndrome (e.g., altered mental status, hypertension, restlessness, myoclonus, hyperthermia, hyperreflexia, diaphoresis, shivering, and tremor), especially during initiation and dose escalations. Due to variability and occasionally prolonged half-lives of these coadministered agents, consulting individual product labeling for specific guidance is advised.

› References (7)

Moderate

sertraline ⇄ pregabalin

Applies to: Zoloft (sertraline), pregabalin

MONITOR: The efficacy of anticonvulsants may be diminished during coadministration with selective serotonin reuptake inhibitors (SSRIs) or serotonin-norepinephrine reuptake inhibitor (SNRIs). Antidepressants including SSRIs and SNRIs can reduce seizure threshold. In clinical trials, convulsions have typically been reported in 0.1% to 0.3% of patients receiving SSRIs for major depressive disorders. There have been rare reports of prolonged seizures in patients on fluoxetine receiving electroconvulsive therapy (ECT).

MONITOR: Coadministration of SSRIs or SNRIs may potentiate the central nervous system (CNS) adverse effects of anticonvulsants such as somnolence and cognitive and psychomotor impairment.

MONITOR: Coadministration of SSRIs or SNRIs with some anticonvulsants, particularly carbamazepine, eslicarbazepine, oxcarbazepine and valproic acid, may increase the risk of hyponatremia. Treatment with SSRIs or SNRIs has been associated with hyponatremia, which may be due to the syndrome of inappropriate antidiuretic hormone secretion (SIADH) in many cases. While generally reversible following discontinuation of SSRI/SNRI treatment, cases with serum sodium lower than 110 mmol/L have been reported. Hyponatremia and SIADH may also result from treatment with some anticonvulsants. The risk appears to be dose-related, and elderly patients and patients who are volume depleted (e.g., diuretic use) may be at greater risk.

MANAGEMENT: SSRIs and SNRIs should be avoided in patients with unstable epilepsy, and used cautiously in patients with epilepsy controlled with anticonvulsant medications. Treatment with SSRIs

and SNRIs should be discontinued if seizures develop or seizure frequency increases. Patients receiving SSRIs or SNRIs with anticonvulsants, particularly carbamazepine, eslicarbazepine, oxcarbazepine and/or valproic acid, should also have serum sodium levels measured regularly and monitored for development of hyponatremia, particularly when higher dosages of these medications are used. Signs and symptoms of hyponatremia include nausea, vomiting, headache, difficulty concentrating, memory impairment, confusion, malaise, lethargy, muscle weakness or spasms, and unsteadiness. In more severe and/or acute cases, hallucination, syncope, seizure, coma, respiratory arrest, and death may occur. Discontinuation of SSRIs and SNRIs should be considered in patients who develop symptomatic hyponatremia, and appropriate medical intervention instituted. All patients receiving concomitant therapy with SSRIs or SNRIs and anticonvulsants should be counseled against driving, operating machinery, or engaging in potentially hazardous activities requiring mental alertness and motor coordination until they know how these agents affect them, and to notify their physician if they experience excessive or prolonged CNS effects that interfere with their normal activities.

› References (20)

Moderate

QUEtiapine ⇄ pregabalin

Applies to: Seroquel (quetiapine), pregabalin

MONITOR: Central nervous system- and/or respiratory-depressant effects may be additively or synergistically increased in patients taking multiple drugs that cause these effects, especially in elderly or debilitated patients. Sedation and impairment of attention, judgment, thinking, and psychomotor skills may increase.

MANAGEMENT: During concomitant use of these drugs, patients should be monitored for potentially excessive or prolonged CNS and respiratory depression. Cautious dosage titration may be required, particularly at treatment initiation. Ambulatory patients should be counseled to avoid hazardous activities requiring mental alertness and motor coordination until they know how these agents affect them, and to notify their physician if they experience excessive or prolonged CNS effects that interfere with their normal activities.

› References (36)

No other interactions were found between your selected drugs. However, this does not necessarily mean no other interactions exist. Always consult your healthcare provider.

Drug and food/lifestyle interactions

Moderate

lithium ⇄ food/lifestyle

Applies to: lithium

GENERALLY AVOID: Alcohol may potentiate some of the pharmacologic effects of CNS-active agents. Use in combination may result in additive central nervous system depression and/or impairment of judgment, thinking, and psychomotor skills.

MANAGEMENT: Patients receiving CNS-active agents should be warned of this interaction and advised to avoid or limit consumption of alcohol. Ambulatory patients should be counseled to avoid hazardous activities requiring complete mental alertness and motor coordination until they know how these agents affect them, and to notify their physician if they experience excessive or prolonged CNS effects that interfere with their normal activities.

› References (4)

Moderate

sertraline ⇄ food/lifestyle

Applies to: Zoloft (sertraline)

GENERALLY AVOID: Alcohol may potentiate some of the pharmacologic effects of sertraline. Use in combination may result in additive central nervous system depression and/or impairment of judgment, thinking, and psychomotor skills. In addition, limited clinical data suggest that consumption of grapefruit juice during treatment with sertraline may result in increased plasma concentrations of sertraline. The proposed mechanism is inhibition of CYP450 3A4-mediated metabolism by certain compounds present in grapefruit. An in-vitro study demonstrated that grapefruit juice dose-dependently inhibits the conversion of sertraline to its metabolite, desmethylsertraline. In a study with eight Japanese subjects, mean plasma levels of sertraline increased by approximately 100% and maximum plasma concentrations increased by 66% after the ingestion of three 250 mL glasses of grapefruit juice per day for 5 days and administration of a single dose of sertraline 75 mg on the sixth day. In another small study with 5 patients, mean sertraline trough levels increased by 47% after taking sertraline for at least 6 weeks, then taking sertraline with 240 mL grapefruit juice daily for 1 week. The clinical significance is unknown; however, pharmacokinetic alterations associated with interactions involving grapefruit juice are often subject to a high degree of interpatient variability. The possibility of significant interaction in some patients should be considered.

MANAGEMENT: Patients receiving sertraline should be advised to avoid or limit consumption of alcohol. Ambulatory patients should be counseled to avoid hazardous activities requiring complete mental alertness and motor coordination until they know how sertraline affects them, and to notify their physician if they experience excessive or prolonged CNS effects that interfere with their normal

activities. Some authorities recommend that consumption of grapefruit juice should be avoided during sertraline therapy.

› References (4)

Moderate

QUEtiapine ⇄ food/lifestyle

Applies to: Seroquel (quetiapine)

GENERALLY AVOID: Grapefruit juice and/or grapefruit may increase the plasma concentrations of quetiapine. The proposed mechanism is inhibition of CYP450 3A4-mediated first-pass metabolism in the gut wall by certain compounds present in grapefruit. Inhibition of hepatic CYP450 3A4 may also contribute. The interaction has not been studied with grapefruit juice but has been reported for other CYP450 3A4 inhibitors. For example, in 12 healthy volunteers, administration of a single 25 mg dose of quetiapine with the potent CYP450 3A4 inhibitor ketoconazole (200 mg once daily for 4 days) increased mean quetiapine peak plasma concentration (Cmax) and systemic exposure (AUC) by 3.4- and 6.2-fold, respectively, and decreased mean oral clearance by 84%. In general, the effects of grapefruit products are concentration-, dose- and preparation-dependent, and can vary widely among brands. Certain preparations of grapefruit (e.g., high dose, double strength) have sometimes demonstrated potent inhibition of CYP450 3A4, while other preparations (e.g., low dose, single strength) have typically demonstrated moderate inhibition. High plasma levels of quetiapine may increase the risk and/or severity of serious adverse effects such as extrapyramidal symptoms, tardive dyskinesia, hyperglycemia, dyslipidemia, hyperprolactinemia, orthostatic hypotension, blood pressure increases (in children and adolescents), priapism, QT prolongation, cognitive and motor impairment, dysphagia, heat-related illnesses due to disruption of body temperature regulation, and symptoms of serotonin syndrome (e.g., mental status changes such as irritability, altered consciousness, confusion, hallucination, and coma; autonomic dysfunction such as tachycardia, hyperthermia, diaphoresis, shivering, blood pressure lability, and mydriasis; neuromuscular abnormalities such as hyperreflexia, myoclonus, tremor, rigidity, and ataxia; and gastrointestinal symptoms such as abdominal cramping, nausea, vomiting, and diarrhea).

Food may have varying effects on the absorption of quetiapine from immediate-release versus prolonged-release formulations. In a study examining the effects of food on the bioavailability of quetiapine, a high-fat meal was found to produce statistically significant increases in the quetiapine prolonged release Cmax and AUC of approximately 50% and 20%, respectively. It cannot be excluded that the effect of a high fat meal on the formulation may be larger. In comparison, a light meal had no significant effect on the Cmax or AUC of quetiapine.

Quetiapine may potentiate the cognitive and motor effects of alcohol. The mechanism is likely related to

the primary central nervous system effects of quetiapine.

MANAGEMENT: According to the manufacturer, consumption of grapefruit juice should be avoided during treatment with quetiapine. Quetiapine immediate-release tablets may be taken with or without food. It is recommended that quetiapine prolonged release is taken once daily without food or with a light meal. Consumption of alcohol should be limited and used with caution while taking quetiapine.

› References (10)

Moderate

pregabalin ⇄ food/lifestyle

Applies to: pregabalin

GENERALLY AVOID: Alcohol may potentiate some of the pharmacologic effects of CNS-active agents. Use in combination may result in additive central nervous system depression and/or impairment of judgment, thinking, and psychomotor skills.

MANAGEMENT: Patients receiving CNS-active agents should be warned of this interaction and advised to avoid or limit consumption of alcohol. Ambulatory patients should be counseled to avoid hazardous activities requiring complete mental alertness and motor coordination until they know how these agents affect them, and to notify their physician if they experience excessive or prolonged CNS effects that interfere with their normal activities.

› References (4)

Moderate

lithium ⇄ food/lifestyle

Applies to: lithium

MONITOR: One study has suggested that caffeine withdrawal may significantly increase blood lithium levels. The mechanism may be involve reversal of a caffeine-induced increase in renal lithium excretion.

MANAGEMENT: When caffeine is eliminated from the diet of lithium-treated patients, caution should be exercised. When caffeine consumption is decreased, close observation for evidence of lithium toxicity and worsening of the psychiatric disorder is recommended. Patients should be advised to notify their physician if they experience symptoms of possible lithium toxicity such as drowsiness, dizziness, weakness, ataxia, tremor, vomiting, diarrhea, thirst, blurry vision, tinnitus, or increased urination.

› References (1)

Therapeutic duplication warnings

No duplication warnings were found for your selected drugs.

Therapeutic duplication warnings are only returned when drugs within the same group exceed the recommended therapeutic duplication maximum.

Report options

Loading...

Drug Interaction Classification

These classifications are only a guideline. The relevance of a particular drug interaction to a specific individual is difficult to determine. Always consult your healthcare provider before starting or stopping any medication.

Major	Highly clinically significant. Avoid combinations; the risk of the interaction outweighs the benefit.
Moderate	Moderately clinically significant. Usually avoid combinations; use it only under special circumstances.
Minor	Minimally clinically significant. Minimize risk; assess risk and consider an alternative drug, take steps to circumvent the interaction risk and/or institute a monitoring plan.
Unknown	No interaction information available.

See also:

Caplyta

Caplyta is used to treat schizophrenia or depression associated with bipolar disorder. It is taken ...

Reviews & ratings

Lybalvi

Lybalvi is used to treat adults with manic or mixed episodes associated with bipolar I disorder ...

Reviews & ratings

FEATURED

Botox

Botox is u
facial lines
purpos

Reviews

6.6 / 10	189 Reviews	8.1 / 10	16 Reviews	5.7 / 10

Further information

Always consult your healthcare provider to ensure the information displayed on this page applies to your personal circumstances.